5 A Day International Symposium Proceedings





5 A Day International Symposium Proceedings

Edited by

Gloria Stables MS, RD

and

Margaret Farrell MPH, RD

CABI Publishing

sponsored by
US 5 A Day Better Health Program: US National Cancer
Institute and Produce for Better Health Foundation

with support from US Centers for Disease Control and Prevention Dole Food Company Produce Marketing Association

CABI Publishing is a division of CAB International

CABI Publishing
CAB International
10 E 40th Street
Wallingford
Suite 3203
Oxon OX10 8DE
UK
USA

Tel: +44 (0)1491 832111 Tel: +1 212 481 7018
Fax: +44 (0)1491 833508 Fax: +1 212 686 7993
Email: cabi@cabi.org Email: cabi-nao@cabi.org

Web site: http://www.cabi.org

© CAB *International* 2000. All rights reserved. No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording or otherwise, without the prior permission of the copyright owners.

A catalogue record for this book is available from the British Library, London, UK.

ISBN 0 85199 472 5

Typeset by Columns Design Ltd, Reading. Printed and bound in the UK at Information Press, Eynsham.

Contents

Foreword Gloria Stables and Elizabeth Pivonka	vii
List of participants	ix
Introduction of the US Surgeon General Dr David Satcher Robert Hiatt	1
Keynote Address: Improving the health of our world through increased fruit and vegetable consumption David Satcher	3
Fruits and vegetables in disease prevention: a global perspective John D Potter	9
The US 5 A Day Program: a model for increasing fruit and vegetable consumption	
I. The role of the US National Cancer Institute and public partners Gloria Stables	23
II. The role of the Produce for Better Health Foundation: promoting fruits and vegetables at retail Elizabeth Pivonka	31
5 A Day-type programmes throughout the world: lessons from Australia, Norway, Canada, Germany and Great Britain Margaret Farrell, John Catford, Anniken Owren Aarum, Jane Proctor, Rainer Bredenkamp, David Matthews and Nancy Tucker	37

vi Contents

Fruit and vegetable consumption trends and evaluation: the role of baseline surveys and evaluation methodology in tracking	
programme success and impact	55
Susan M Krebs-Smith	
Communicating for awareness change	63
Dan Snyder, Stephenie Fu, Paul Vosloo and Victoria Goldstein	
Effective behaviour change in community environments:	
children in school	71
Gretchen Taylor, Susan B Foerster and Lorelei DiSogra	

Foreword

Gloria Stables^{1,*} and Elizabeth Pivonka²

¹Division of Cancer Control and Population Sciences, National Cancer Institute, 6130 Executive Boulevard, EPN 232, Bethesda, MD 20892-7330, USA: ²Produce for Better Health Foundation, Wilmington, DE 19809, USA

Over the past few decades, an emerging international consensus has evolved associating diets high in vegetables and fruit with reduced risk of many cancers and other chronic diseases^{1,2}. This emerging consensus, combined with suboptimal fruit and vegetable consumption across populations¹, has led to a call to action for public health professionals to plan programmes to address this issue.

By creating a workable model in which public agencies and private industry work together on a national level to address this significant public health concern, the US 5 A Day for Better Health Program has piqued national as well as international interest. The unique national public–private partnership which lies at the heart of the programme clearly captured the imagination of public health and private industry leaders worldwide.

In 1998, the National Cancer Institute (NCI) and the Produce for Better Health Foundation (PBH) convened the first 5 A Day International Symposium. The timing seemed ideal. The 5 A Day infrastructure, including all 50 states, many federal agencies and key industry participants, was securely in place. The NCI had begun quantifying formally the impact of the US programme. The PBH was expanding and strengthening several aspects of its national programme. Both the NCI and PBH could point to a number of successes and challenges encountered as the programme grew and matured. International interest in the US 5 A Day Program and the application of the 5 A Day model in other countries had increased as well. Several countries had already begun to publish findings from their own 5 A Day-type programmes^{3,4} in which they documented their own successes and lessons learned. The time was right to convene representatives from other countries to share the US experiences to date and to learn from theirs.

^{*} Corresponding author: Email stablesg@mail.nih.gov

The symposium attracted leading health officials and produce industry representatives from 25 countries spread over six continents. A number of countries represented at the meeting have utilized the US 5 A Day Program as a model for public health nutrition programming and have shared their successes and challenges. Other participants attended the conference so they could apply the lessons learned from existing programmes as they establish nutrition and health promotion programmes at home.

The symposium focused on issues central to programmes at all stages of implementation. It provided a summary of the scientific underpinnings of 5 A Day-type programmes, an overview of the US 5 A Day model, and an examination of several applications of the programme in other countries. Common themes, such as initiating public—private partnerships, leveraging resources for effective communications and measuring changes in fruit and vegetable consumption were addressed. Most importantly for many participants, however, a dialogue within and between countries had begun.

By publishing the proceedings of the conference, we hope to disseminate more widely the efforts undertaken internationally to refine and apply the 5 A Day model. The importance of creative and theory-driven interventions in redressing the global increases in the rates of cancer and other chronic diseases cannot be underrated. We have an extraordinary opportunity to learn from each other and forge future collaborations in research and practice. We believe this meeting, the corresponding proceedings and continued dialogue begin to lay the groundwork for international collaborations.

References

- 1 World Cancer Research Fund/American Institute for Cancer Research. Food, Nutrition and the Prevention of Cancer: a Global Perspective. Washington, DC: American Institute for Cancer Research, 1997.
- 2 National Academy of Science. Diet, Nutrition, and Cancer. Washington, DC: National Academy Press, 1992.
- 3 Dixon H, Ron Borland R, Segan C, Stafford H, Sindall C. Public reaction to Victoria's '2 Fruit 'n' 5 Veg Every Day' campaign and reported consumption of fruit and vegetables. *Prev. Med.* 1998; 27: 572–82.
- 4 Lechner L, Brug J. Consumption of fruit and vegetables: how to motivate the population to change their behavior. *Cancer Lett.* 1997; 114: 335–6.

List of participants

Anniken Owren Aarum, National Nutritional Council for Norway, Oslo, Norway Janice Albert, Food and Agriculture Organization of the United Nations, Rome, Italy

Betty Allison, Maryland Food Center Authority, Jessup, MD, USA
Katarina Annerstedt-Heino, Frukt and Gront Framjandet, Stockholm, Sweden
Patrick Atagi, United Fresh Fruit and Vegetable Association, Alexandria, VA, USA
Oumarou Balde, Societe Malipan Diawbhe, Republic of Guinea, West Africa
Diane Beth, Durham County Health Department, Durham, NC, USA
Aboubacar Fidiki Biallo, Societe Malipan Diawbhe, Republic of Guinea, West
Africa

Fatoumapa Binta Balde, Societe Malipan Diawbhe, Republic of Guinea, West Africa

Anja Biltoft-Jensen, Danish Veterinary and Food Administration, Soborg, Denmark Rainer Bredenkamp, German Cancer Society, Frankfurt, Germany Mary Jane Bruton, American Cancer Society, Charlotte, NC, USA
Kari H Bugge, Norwegian Fruit and Vegetable Marketing Board, Oslo, Norway Ritva Butrum, American Institute for Cancer Research, Washington, DC, USA
Kemoko Camara, Societe Malipan Diawbhe, Republic of Guinea, West Africa Palle Carlson, ICA Frukt and Gront, Helsingborg, Sweden
John Catford, State Government of Victoria, Melbourne, Australia
Daria Chapelsky, National Cancer Institute/NIH, Bethesda, MD, USA
Chanapen Choprapawon, Ministry of Public Health, Nonthaburi, Thailand
Robert Croyle, PhD, National Cancer Institute/NIH, Bethesda, MD, USA
Dilsey Davis, National Cancer Institute, Bethesda, MD, USA
Rod Dengerink, Toronto Wholesale Produce Association, Toronto, Ontario, Canada

Chuck Dentelbeck, Ontario Produce Marketing Association, Ontario, Canada Ibrahima Fory Diallo, Societe Malipan Diawbhe, Republic of Guinea, West Africa Lorelei DiSogra, Dole Food Company, San Mateo, CA, USA

Valerie Donatelli, Produce for Better Health Foundation, Wilmington, DE, USA

Johan Af Donner, Swedish Cancer Society, Stockholm, Sweden

Connie Dresser, National Cancer Institute, Bethesda, MD, USA

Wayne Drumheller, Produce for Better Health Foundation, Wilmington, DE, USA

Paula Dudley, United Fresh, Auckland, New Zealand

Robb Enright, Produce for Better Health Foundation, Wilmington, DE, USA

Maisie Etukudo, University of Calabar, Calabar, Nigeria

Margaret Farrell, National Cancer Institute/NIH, Bethesda, MD, USA

Janina Fetlinska, Office of Ciechanow Health Consortium, Ciechanow, Poland

Sue Foerster, California Department of Health Services, Sacramento, CA, USA

Aurelie Foucaut, Dole Food Company, Paris, France

Stephenie Fu, Porter Novelli International, Washington, DC, USA

Hisashi Furuichi, Feast International, Inc., Tokyo, Japan

Jill Gammon, Alice Aycock Poe Center for Health Education, Raleigh, NC, USA

Jose Madriz Garcia, Hortifruti, San Jose, Costa Rica

Herb Garritt, Turbana Corporation, Coral Gables, FL, USA

Jill Gates, American Cancer Society, Anchorage, Alaska, USA

Victoria Goldstein, Porter Novelli International, Washington, DC, USA

Alice Gordenker, Produce News, Arlington, VA, USA

Donna Greenbush, Seminis Vegetable Seeds, Oxnard, CA, USA

Peter Greenwald, National Cancer Institute, Bethesda, MD, USA

Goran Hallmans, Swedish Cancer Society, Umea, Sweden

Rose Harrell, Maryland Food Center Authority, Jessup, MD, USA

Robert Hiatt, National Cancer Institute/NIH, Bethesda, MD, USA

Jerianne Heimendinger, AUC Cancer Research Center, Lakewood, CO, USA

Mary Hunt, Dana-Farber Cancer Institute, Boston, MA, USA

Luis Jaramillo, Turbana Corporation, Coral Gables, FL, USA

Cheryl Jenkins, Chesapeake Health Department, Chesapeake, VA, USA

Tara Johnson, Maryland Food Center Authority, Jessup, MD, USA

Jorgen Jouansson, Saba Trading AB, Arsta, Sweden

Paul Oliver Kaukal, Initiative for Healthy and Sound Nutrition in Europe, Vienna, Austria

Pat Kearney, Peanut Institute, Arlington, VA, USA

Kristian Klaaborg, KGT - Copenhagen Wholesale Market, Copenhagen, Denmark

Lisbeth Kohls, ICA Handlarnas AD, Solna, Sweden

Susan M Krebs-Smith, National Cancer Institute, Bethesda, MD, USA

Remy Leprette, Interfel, Paris, France

Mark Linder, Food, Land and People, San Francisco, CA, USA

Shannon Lowe, Maryland Food Center Authority, Jessup, MD, USA

Jacqueline Mailly, O'Connor and Co., Brussels, Belgium

John D Maruca, Mindjourney Software, Raleigh, NC, USA

David Matthews, Bristol Fruit Sales Wholesale Fruit Centre, Bristol, UK

Morten Meyer, Danish Cancer Society, Copenhagen, Denmark

Angel Miquel, Camara Argentina de Fruticultores Integrados, Buenos Aires, Argentina

Luis Moreno, GRUPO PM, Morelos, Mexico

Hiroyuki Mori, Meitsu Ltd, Tokyo, Japan

Mary Murimi, Louisiana Technical University, Ruston, LA, USA

Yoshine Nagano, Otsuma Woman's College, Tokyo, Japan

Hiroyuki Nagata, Meitsu Ltd, Tokyo, Japan

Adrienne Nagy, Hungarian Vegetable Board, Budapest, Hungary

Linda Nebeling, National Cancer Institute/NIH, Bethesda, MD, USA

Kumiko Nobe, Diamond Friedman Company, Ltd, New York, NY, USA

Hiromi Ohtaki, Dole Food Company, Japan, Ltd, Tokyo, Japan

Nichole Oocumma, Jackson County Department of Public Health, Sylva, NC, USA

Karen Ovseyevitz, Martec International, Mexico City, Mexico

Sandra Perry, Hertford Coates Health District, Winton, NC, USA

Elizabeth Pivonka, Produce for Better Health Foundation, Wilmington, DE, USA

Melanie Polk, American Institute for Cancer Research, Washington, DC, USA

Robert Poort, Fruit and Vegetable Publicity Council, The Hague, The Netherlands

John D Potter, Fred Hutchinson Cancer Research Center, Seattle, WA, USA

Charles Pratt-Yule, Dole Europe, Hamburg, Germany

Jane Proctor, Canadian Produce Marketing Association, Ontario, Canada

David Rath, Arkansas Department of Health, Little Rock, AR, USA

Natalie Robinson, Massachusetts Department of Public Health, Boston, MA, USA

David Satcher, Assistant Secretary for Health and Surgeon General, Department of Health and Human Services, Washington, DC, USA

Heidi Schaer, Dole Fresh Fruit International, San Jose, Costa Rica

Renee Schouten, Dole Food Company, Inc., San Mateo, CA, USA

Evelyn Schulman, National Cancer Institute/NIH, Bethesda, MD, USA

Kim Seador, Virginia Department of Health, Richmond, VA, USA

Elena Shougaeva, National Research Center for Preventive Medicine, Moscow, Russia

Karen Sigmon, Alice Aycock Poe Center for Health Education, Raleigh, NC, USAMarja Slagmoolen, Fruit and Vegetable Publicity Council, The Hague, The Netherlands

Dan Snyder, Porter Novelli International, Washington, DC, USA

Gloria Stables, National Cancer Institute/NIH, Bethesda, MD, USA

Amy Subar, National Cancer Institute/NIH, Bethesda, MD, USA

Akemi Tanno, Diamond Friedman Company, Ltd, New York, NY, USA

Gretchen Taylor, Minnesota Department of Health, Minneapolis, MN, USA

Jill Tobacco, Dole Food Company, Inc., San Mateo, CA, USA

Nancy Tucker, Produce Marketing Association, Newark, DE, USA

Lisa Van Wagner, School Nutrition Professional, Arlington, VA, USA

Humberto Zurita Vanegas, Carulla and CIA SA, Bogota, Colombia

Susan Velazquez, NC Division of Community Health, Raleigh, NC, USA

Debby Vindas, Hortifruti, San Jose, Costa Rica

Frank Vogt, Atlanta, Bremen, Germany

Paul Vosloo, Porter Novelli International, Washington, DC, USA
Linda Weinberg, Prospect Associates, Silver Spring, MD, USA
Claudia Wenzing, Produce for Better Health Foundation, Wilmington, DE, USA
Clark Wood, Associated Food Stores, Inc., Salt Lake City, UT, USA
Margo Wootan, Center for Science in the Public Interest, Washington, DC, USA
Agneta Yngve, Karolinska Institute, Stockholm, Sweden
Witold A Zatonski, Department of Epidemiology, Cancer Center, Warsaw, Poland

Introduction of the US Surgeon General Dr David Satcher

Robert Hiatt*

Deputy Director, Division of Cancer Control and Population Sciences, National Cancer Institute, 6130 Executive Boulevard, EPN 232, Bethesda, MD 20892-7330, USA

My name is Bob Hiatt. I'm the Deputy Director for the Division of Cancer Control and Population Sciences for the National Cancer Institute. It is my pleasure to be here this morning and to welcome you to Washington, DC. It looks like we have a beautiful day in a beautiful town to talk about an important subject. I understand you all had an enjoyable time last night at the reception, had a lot of energy for this topic, and the excitement it has generated around the world. We hope to continue that today.

There are over 110 registrants from six continents for this meeting. The concept of 5 A Day and the excitement about it has spread throughout the world, and we hope today to describe in more detail the activities that support this endeavour. One of the things that is very exciting for us, in this country, is the movement of research findings into public health practice. The US government through the National Institutes of Health and the Centers for Disease Control and Prevention strongly supports the research base for the 5 A Day for Better Health Program and other public health interventions and works to move this research into real public health application.

If we're really going to reduce the cancer burden in this country, our efforts have to go beyond the research findings and have an impact through public health application. This can only be done through partnerships with voluntary agencies, with industry, government and public health workers throughout the country. 5 A Day is an excellent example of how this can be done.

We'd like to thank the people who helped us put on this conference. In particular, I want to mention a couple of names from the National Cancer Institute and the Produce for Better Health Foundation. Gloria Stables from the National Cancer

^{*} Corresponding author: Email rh170b@nih.gov

2 R Hiatt

Institute; Margaret Farrell, Linda Nebeling and Daria Chapelsky all helped from the NCI. From the Produce for Better Health Foundation, Elizabeth Pivonka, Claudia Wenzing and Robb Enright have all worked very hard to put this symposium together, and I think they all deserve a round of applause.

I'd also like to thank the symposium's sponsors. Last night, Porter Novelli was responsible for putting on the reception, which you all enjoyed. We'd also like to thank the Dole Food Company, the Centers for Disease Control and Prevention, the Produce Marketing Association, the Seminis Vegetable Seeds Company and the Maryland Food Center Authority. Again, thank you for your help in supporting this conference.

It's now my pleasure to introduce Dr David Satcher, your first and keynote speaker for today. Dr Satcher has just this year been named the 16th Surgeon General of the United States. It's a very great honour to introduce him, because he's had a very distinguished career. In the 5 years prior to being named Surgeon General, he was the director of the Centers for Disease Control and Prevention in Atlanta. This federal agency is responsible for promoting health and preventing disease, injury and premature death. It works very closely with the state and local governments to carry out public health activities and is a much admired and respected organization. Dr Satcher has done much to further the work of the CDC, and to continue its good reputation and contribution to our health in this country.

In several areas, there have been outstanding contributions under Dr Satcher's leadership: in immunizations, in the area of emerging infectious diseases, new infectious diseases, and in early warning systems for food-borne illnesses. But his contributions go beyond infectious disease. He has been responsible for spearheading the enhancement of chronic disease and prevention programmes, especially in breast and cervical cancer screening. Prior to his leading the CDC, he was President of Meharry Medical College for 11 years, and has had a career distinguished by multiple honours including appointments to the Institute of Medicine of the National Academy of Sciences. He's truly a 'Renaissance man': a scholar, a physician and a public health advocate of the first order. In this country, when the Surgeon General speaks, people listen. I invite you to listen to Dr David Satcher on his views of global application of the 5 A Day Program. Thank you.